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# Editorial

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The financial markets expect major policy reforms and investment in infrastructure from the new Government. The capital market has already witnessed significant upward movements signalling positive mood. However one must not forget that sentiments are always transient and hence the bubble may burst as fast. The financial markets should give the new Government a breathing time to act and hence should not be too reactive to every policy announcements. The market participants should take a little longer-term view. Definitely, the Indian markets would attract lot more attention in next one year.

The present issue contains four articles. The first article in this issue looks at High Frequency Traders (HFTs) and argues that capital market regulators in India should not be too much bothered about the abuses of HFTs at this stage since the empirical evidences so far on the role of HFTs are mixed. In the second article, the author focused on the recommendations of Nayak Committee Report and concluded that with the new government taking charge a few days back, it is yet to be seen if the merits of these recommendations are translated in reality or not.

In the third article, the author deals with Indian Gold and Gold Futures Market. Empirical evidences show that gold demand and gold imports in India are price inelastic. The fourth article is on Extraterritorial Impact of International Regulations on Indian Business. Extraterritoriality refers to the applicability or exercise of sovereign laws outside a territory.

You may send your comments and feedback on this issue to [ashok@iimcal.ac.in](mailto:ashok@iimcal.ac.in)

Happy reading!

**Ashok Banerjee**

# High Frequency Traders – Bad Boys?

**Ashok Banerjee**



Ashok Banerjee, Ph.D., is Professor, Finance and Control, Indian Institute of Management Calcutta (IIM-C). He is also the faculty in-charge of the Financial Research and Trading Lab at IIM-C. His primary research interests are in areas of Financial Time Series, News Analytics and Mergers & Acquisitions

High frequency trading and insider trading are not same. Perhaps the now famous book “Flash Boys: A Wall Street Revolution”<sup>1</sup> triggered SEBI to think about asking stock exchanges to ‘implement its guidelines issued last year which state there should be a two-queue system for orders coming from co-location and other mode’<sup>2</sup> SEBI, the Indian Capital market regulator, is of the opinion that high frequency trading through co-location provides an advantage to those traders over other traders. SEBI is all for creating a level-playing field. Presently both NSE and BSE follow same queue system for orders. Orders get matched as and when they come. As per a recent NSE report<sup>3</sup> high frequency trades constitute 17.15% of the overall trading volume - which is much lower than the number in the US of 60-70%. Market traders believe that co-location is a costly affair and it will stop if SEBI’s guidelines are implemented by the exchanges. The regulator, however, is of the opinion that since the high frequency traders trade against one another and not against low frequency traders, the separate queue system would not affect co-location. The real issue is how good or bad is high frequency trading. Regulators now attribute any market manipulation to high frequency trades. Such manipulations may include entering bids the trader has no intention to complete in order to artificially raise or lower the price of a security. However, some traders allege that ‘off-exchange’ trades are more dangerous than high frequency trades. A report shows that more than 30% of all US stock trades now happen off-exchange- up from 16% six years ago<sup>4</sup>. Market regulators fear that HFTs and ‘off-exchange’ trades (known as dark trades) can significantly erode market quality and price transparency

High frequency trading (HFT) or algorithmic trading uses computer programmes to execute orders in exchange traded securities. The automation of stock exchanges enabled real time trading and thereby enhanced trading capacity of markets

<sup>1</sup> Michael Lewis, Flash Boys: A Wall Street Revolution, W.W. Norton & Co. 2014

<sup>2</sup> Economic Times, 11 April 2014

<sup>3</sup> ibid

<sup>4</sup> The Indian Express, 8 April 2014

significantly. Liquidity providers generally play a valuable role by providing immediacy to trades. High frequency traders develop algorithms which carry instructions for the machines to execute orders. These algorithms and high-speed machines enable the traders process gigabytes of data very fast and hence place orders quickly before the market factors information in the prices. These traders mostly place limit orders. Major investments of these traders are in servers, terminals, co-location charges, and high-end cables. There are specialised companies which provide co-location facilities with high speed connection to exchange servers. High frequency traders install ultra-fast fibre-optic data connection between their systems and stock exchanges, giving them 'millisecond' advantage over rival traders. This small time-advantage allows HFTs to see other buyers' orders before they are executed- leading to front-running edge. The economics of HFTs depend on how traders could access the exchange server and execute orders. For example, round-trip data travel time from Chicago to New Jersey has been cut to 13 milliseconds<sup>5</sup>. What is interesting is high frequency traders are willing to pay a hefty sum to have such millisecond advantage. The first 200 HFTs who availed the Chicago-New Jersey high-speed cable paid \$2.8 billion for the facility!<sup>6</sup> Typically HFTs operate on wafer-thin margins and make their money on trading volume.

### **High Frequency Trading and Price Discovery**

The first condition for a better price discovery mechanism is presence of large volume of bid and ask for a security. These volumes signal market belief on the price of a security. When more traders take 'view' on a particular stock, short-term anomalies in price get corrected faster. Liquidity providers stabilise prices quickly. It is argued that HFTs facilitate price efficiency by trading in the direction of permanent price changes and in the opposite direction of transitory pricing errors. HFTs signal 'buy' trade when market prices are below the efficient levels and place sell orders when market prices are above the efficient levels. It is also observed that direction of HFTs is correlated with public information, such as macro news, market-wide price movements, and limit order book imbalances. However, some boutique HFTs do not spend too much money in gathering information. Rather they use technical analysis to predict short-term price movements. These traders claim that they cannot be condemned as indulging in insider trading as they only use price information for developing trading algorithm and no public or private news. Uninformed traders typically place buy (sell) order when the market is high(low). Low frequency traders (traders other than HFTs) trade on transitory price imbalances. It is found that HFTs adopt contrarian strategies

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<sup>5</sup> The Telegraph, UK, 2 April 2014

<sup>6</sup> *ibid*

whereas low frequency traders follow momentum<sup>7</sup>. HFTs make profits by predicting price movements over a very short time horizon- a few seconds or at most a couple of minutes. Market HFT orders predict positive price movements, whereas passive HFT limit orders negatively predict future price changes. Therefore, HFTs should lead to better price discovery and presence of HFTs can correct market anomalies faster.

## High Frequency Trades and Market Volatility

Although market regulators allege that HFTs create excessive price movements, the last word on this is not said yet. There are conflicting evidences. Using a large sample of firms from 1985 to 2009, Zhang<sup>8</sup> found that HFTs increase stock market volatility. The positive correlation, Zhang observes, between high frequency trading and volatility was especially strong for top 3000 stocks. On the other hand, a recent study released by the Futures Industry Association in the US<sup>9</sup> found no evidence to suggest that 'realized return volatility in electronically-traded futures markets has changed through time'. Like the previous study, this study also used a massive data set- 15 futures contracts traded on platforms CME Group Inc., Deutsche Boerse AG's Eurex, and NYSE, Euronext's Liffe over six years (2006-2011). Academic have also looked at the relationship between transitory market volatility and limit order size. These studies attempt to explore whether higher short-term volatility triggers more limit orders than market orders. Logically, if a market witnesses high intra-day volatility, traders would place more limit orders due to high uncertainty. Results here are also mixed. For example, in Hong Kong it was found that at high frequency, large limit orders follow high short-term volatility. If volatility is low, traders place more market orders. However, in India the opposite was observed. One may perhaps infer that HFTs love high volatility and hence place market orders to encase the upside with volatility.

Indian stock markets have witnessed low HFT volume so far. But the trend shows that HFTs are gong to increase as many Indian stocks show persistence of price anomalies for a longer run- which is quite inviting for HFTs. Capital market regulators in India should not be too much bothered about the abuses of HFTs at this stage since the empirical evidences so far on the role of HFTs are mixed. The market regulator in India should be more bothered about the presence of FIIs in daily trades. FIIs control a significant portion of stock trading volume- much higher than HFTs. The free-float of stocks, and hence market liquidity, is very low for many sto

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<sup>7</sup> Jonatahn Brogaard, Terrance Hendershoft and Ryan Riordan, 2013 *High Frequency Trading and Price Discovery* <http://ssrn.com/abstract=1928510>

<sup>8</sup> Frank Zhang, 2010, *High Frequency Trading, Stock Volatility and Price Discovery*. <http://ssrn.com/abstract=1691679>

<sup>9</sup> High-frequency trading does not raise futures volatility-study, Reuters, 27 August 2013

# Deteriorating Bank Asset Quality in India: Ominous Trends

**Partha Ray**



Partha Ray, Ph.D., is Professor, Economics, Indian Institute of Management Calcutta (IIM-C). Prior to joining IIM-C, Prof. Ray, a career central banker, was the adviser to Executive Director, International Monetary Fund, Washington D.C. during 2007-2011.

Our public sector banks have tended to evoke extreme emotions. At one end of the spectrum is the view that these are huge drain on the national productivity and resources and hence need to be winded up as soon as we can and bankers are seen as another (perhaps newer) constituents of the semi-government bureaucracy, who are associated with the license-permit raj! At the other end, these public sector banks are also seen as the ultimate weapons of social justice and financial inclusion as well as great mobilizes of financial savings. Like all caricatured views, truth perhaps lie in somewhere in between these extreme opinions.

To put the records straight, a few established facts may be cited at the very outset.

- *First*, there is no denial of the fact that decision to nationalize commercial banks sprang from political motivation. Dr I G Patel, the then Secretary, Economic Affairs (and later Governor of the RBI) in his autobiography mentioned that on the eve of bank nationalization, Mrs. Indira Gandhi (the then Prime Minister and Finance Minister as well) told him: “For political reasons, it has been decided to nationalise the banks....” (Patel, 2002; p. 135).<sup>10</sup>
- *Second*, as a result of bank nationalization, the country got as huge network of bank branches that helped mobilization of savings, financial inclusion and, even to some extent, poverty eradication.
- *Third*, on the flip side, the banking sector had accumulated huge non-performing assets.

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<sup>10</sup> Patel I. G. (2002): *Glimpses of Indian Economic Policy: An Insider's View*, Delhi: Oxford University Press. Dr. Patel is said to have offered two suggestions to Mrs Gandhi: (a) foreign banks should not be nationalized; and (b) instead of nationalizing all banks, it would be better if only the major banks, which accounted for 85–90 per cent of the total banking business, were nationalized; both these suggestions were accepted.

- *Fourth*, in general, productivity and efficiency of public sector banks were low – and to that extent the nation suffered.

However, following the recommendations of the Narasimham Committee, as an essential ingredient general economic liberalization, financial sector liberalization was initiated in India since the mid 1990s. In terms of a broad brush, two things happened. *First*, licenses were issued to number of private sector banks in end 1990s. *Second*, a number of public sector banks underwent partial disinvestment, whereby some part of their shares was floated in the market. In fact, 20 out of the 27 public sector banks have accessed capital market for their capital, effectively making them subject to twin forces of market discipline and government control. But nearly a decade has passed ever since all these happened and the last ten years or so, there has been quite a bit of lull in the banking sector reforms. It is in this connection that the recently released Report of the RBI “**Committee to Review Governance of Boards of Banks in India**” (Chairman: P J Nayak; hereafter referred to as Nayak Committee Report) has attracted quite an attention.

It may be useful to recall that the RBI has constituted in January 2014 this committee with the following broad terms of reference:

1. to review the regulatory compliance requirements of banks’ boards in India;
2. to judge what can be rationalized and where requirements need to be enhanced;
3. to examine the working of banks’ boards;
4. to review central bank regulatory guidelines on bank ownership, ownership concentration and representation in the board;
5. to analyze the representation on banks’ boards to see whether the boards have the appropriate mix of capabilities and the necessary independence to govern the institution, and to investigate possible conflicts of interest in board representation; and
6. to examine board compensation guidelines, and any other issue relevant to the functioning of banks’ boards and the governance they exercise.

The committee has submitted its report in May 2014 and, unlike a typical RBI report, came up with a frank assessment of Indian public sector banks and made a number of recommendations of far-reaching significance. Illustratively, the report starts with the following assessment, “The financial position of public sector banks is



fragile, partly masked by regulatory forbearance. Forbearance delays, but does not extinguish, the recognition of this fragility” (p.1). Such candid assessment reaffirms our hunch on the state of the Indian banking sector.

The report has made a number of recommendations and it is not possible to do justice to the rich set of recommendations within the short span of this column of *Artha*. The committee starts with an initial observation that given the fragile state of our public sector banks, and the implicit cost to the exchequer, and given the sorry state of Indian fiscal situation, the Government really has two options: (a) privatize the PSBs; or (b) design a radically new governance structure for the PSBs that would better ensure their ability to compete successfully. While implicitly adopting option (b), the Committee identified the following key constraints of the PSBs: (a) dual regulation (by the Finance Ministry, and the RBI); (b) the manner of appointment of directors to boards; (c) the short average tenures of top management; (d) compensation; (d) external vigilance enforcement; and (e) applicability of the Right to Information Act.

A major recommendation of the Committee is the proposal to set up a **Bank Investment Company (BIC)** which would hold equity stakes in banks which are presently held by the Government. The nature of business of the BIC would resemble a passive sovereign wealth fund for the Government's banks and its functioning may evolve in a phase wise manner. The committee recommended complete withdrawal of the government from the realm of regulation and wanted to make the RBI as the sole regulator. The committee called for through overhauling of the bank licensing regime and recommended that, “It would be desirable for the bank licensing regime to move to a uniform license across all broad-based banks, irrespective of ownership, subject to inter-jurisdictional reciprocity considerations in respect of foreign banks, and niche licenses for banks with more narrowly defined businesses”. In order to ease the constraints faced by the PSBs, the committee recommended that the investment of the proposed BIC to be less than 50 per cent, so that these PSBs lose their “public sector” character, thus, effectively freeing them from the oversight of the Central Vigilance Commission, the Right to Information Act, and constraints on employee compensation.

Interestingly, the committee recommended that the RBI should designate a specific category of investors in banks as **Authorized Bank Investors (ABIs)**, comprising “pension funds, provident funds, long-only mutual funds, long-short hedge funds, exchange-traded funds and private equity funds (including sovereign wealth funds) provided they are diversified, discretionally managed and found to be 'fit and proper’”. ABIs would exclude all proprietary funds (including those which are hedge

funds or set up by corporates), non-banking finance companies and insurance companies. Besides, the committee recommended minimum five-year tenure for CMD and minimum three-year tenure for Executive Directors in PSBs; for private sector banks, the minimum and maximum age prescribed by the Companies Act at the time of appointment should be applicable to all directors.

Most of these recommendations merit further deliberation and various stake holders may have different takes on the usefulness of these recommendations. The New Government has been formed with a new Finance Minister taking charge a few days back. Going forward, it remains to be seen, how far these recommendations are translated into reality and implementation.

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# Indian Gold and Gold Futures Market – Facts and Figures

## Golaka C Nath\*



Dr. Golaka C Nath is a Senior Vice President at the Clearing Corporation of India Ltd. (CCIL). He has over 21 years of experience in the banking and financial sector, having previously worked with the National Stock Exchange of India Ltd. and Vijaya Bank. In the past, he has worked on a World Bank Project on “Developing Bond Market in South Asia”. He has also provided secretarial service to the High Powered Committee on “Corporate Bonds and Securitization” appointed by the Ministry of Finance, Government of India.

Commodities play a very important role in macroeconomic environment of an economy. Shortage of commodities can lead to wide price fluctuations and higher level of volatility leading to higher risk premia for investors. Excess availability of the same would lead to depressing price situation forcing producers out of business at times. Commodities are typically traded in various market layers starting with large wholesale trading between producers and investors and ending with retail small quantity trading between retailers and end users. A commodity market generally attracts large number of middlemen and financing agents who take possession of physical assets and store them at warehouses to sell them at appropriate time to make sufficient profit to stay in business. Depending on the layers of middlemen in the market structure, the end users’ price deviates from the producers’ price. The spot commodities market deals in physical form of commodities movement. Price of commodities which are perishable in nature (like agricultural products) behave little differently than non-perishable commodities like metals and energy commodities. However, commodities futures markets have been able to bring stability to the spot markets. The theory of storage and the normal backwardation theory explain the relationship between the spot and futures prices in commodity markets.

Spot and Futures markets are linked in terms of their price movements. Higher liquidity in these markets make price discovery more efficient. Discovery of efficient price is a predominant function of the futures market as the market is likely to be used by traders, producers, marketing agents and processors. Numerous studies have been conducted to show the futures market reacts faster to new information vis-à-vis spot market as it is cheaper to exercise a view in the futures market than in the physical spot market.

***\* Personal views of the author only and not the views of his organization***

Most of earlier studies reveal that futures markets play a very critical role in efficient price discovery. The futures market is linked to the spot market through a cost of carry component which will not only take care of the cost of inventory holding but also any convenient yield arising out of such physical holdings. The prices in the futures and spot markets are systematically related both in the short and long run and any deviation should be rationally explained. The presence of an equilibrium relation binding together the two prices of the futures and spot markets is the main theme behind efficient price formation. As a large number arbitragers exist in the system and they can fund their position through borrowing mechanism by paying appropriate cost, any disparity in price between spot and futures market is likely to be exploited by these arbitragers. Efficient price discovery mechanism through the above equilibrium process leads to better decision making that ultimately results in an optimal allocation of physical resources.

Futures on commodities are widely traded in global markets and in India, Government allowed trading in commodity futures in 2003. Among the commodities futures contracts traded in India, Gold accounts for the largest share of contracts. The trading on gold is also concentrated in one Exchange<sup>11</sup>. Spot gold market is typically across all geographical locations in India but the price fixation at either Mumbai or Ahmedabad is accepted among the traders for delivery. Gold, being a commodity, attracts State level taxes along, if any. Hence, traders prefer to take delivery of physical gold in a center where the tax is relatively lower. Ahmedabad as a delivery center for gold has been growing in importance in recent years and it is well accepted among the traders. The Indian Commodity Exchanges typically use spot price for delivery at Ahmedabad as the settlement price for their futures contract in Gold.

The price and production behaviour of gold differs from most other commodities. During the recent financial crisis, the gold price increased by 6% while many key mineral prices fell and equities dropped by around 40%. The unique and diverse drivers of gold demand and supply do not correlate highly with changes in other financial assets (WGC, 2009). Efficient price discovery mechanism is an important issue in a competitive market. Price behavior in the physical and financial markets determine how the agents of the market like producers, speculators, financiers and users would behave. If price discovery is inefficient, liquidity becomes the biggest challenge for all. This paper looks at the mechanism of efficient price discovery in Gold spot and Futures market and their interlinkages. The rest of the paper is organized into the \_\_\_\_\_ sections. Section 2 deals with Indian gold market microstructure.

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<sup>11</sup> Multi Commodity Exchange (MCX) accounts for lion's share in Commodity Futures contracts traded in India.

Section 3 presents methodology and data. The last section summarizes the empirical results and findings.

## **Indian Gold Market**

More than 95% of gold imported for the domestic market is in the form of small cast bars weighing 10 tolas (3.75 oz), widely known as TT bars or biscuits. Most imported TT bars are produced by 8 major gold refiners in Switzerland, South Africa, United Kingdom and Australia. Imported gold is distributed nationwide through secondary and lower tier bullion dealers that fall below the primary tier of bank and PSU importers. The most important dealers are located in cities where the State sales tax is low. Notably, Ahmedabad, Jaipur, Mumbai and Gurgaon.

Historically India is one of the largest importers of gold in the world. Gold is held as a family jewel for most families in the country and very rarely families sell gold for pecuniary purposes. Before early nineties, gold market in India attracted a lot of parallel transaction as the imports were restricted combined with high import duties. The hawala market operated leading to increased black market transactions in gold. However, financial sector reforms process in nineties brought much needed reforms to the gold market and market was freed up from high import duties and restriction on imports. The international price and domestic market price of gold almost synchronized till Government introduced high import duties on gold imports in 2013. The Government hiked import duty in August'13 on refined gold bars for a third time in eight months to 10 per cent from the earlier 8 per cent in order to curb the demand and restrict its impact on Current Account Deficit (CAD) and exchange rate.

The gold import has been rising unabatedly for last few years and such large import of gold has become one of the major source of our high trade deficit. The CAD has deteriorated significantly in recent times due to large gold imports. This resulted in depreciation of the Indian currency and resulted in reduction of the foreign exchange reserves. This high current account deficit and falling Indian Rupee in 2013 forced RBI and the Government to introduce restrictions on gold imports as well as introducing duties on import of Gold. However, the differential pricing between international and domestic prices has resulted in increasing unauthorized market taking shape through hawala route. The aggregate demand for gold in India is influenced by many social, economic and cultural factors. Gold is a chosen investment for many as it is considered a hedge against inflation. India has been passing through high inflationary situation for last few years and this might have contributed to such high demand for gold. Further, return on alternate assets have not been lucrative enough for investors to diversify into those assets. The performance of gold against other comparable financial assets in recent years is another possible reason

for the shift towards investment in gold in India. Rising global gold prices in recent years did not affect the domestic demand of the gold in India implying that investment in gold is becoming price inelastic. International gold prices have increased exponentially in recent years and domestic gold prices have moved in tandem with international gold prices in recent years. In recent years, the gold loan market in India has grown rapidly. Large number of Non-Banking Financial Companies are involved in gold loan business in India who source funds from banking sector. Till recently, banks were very active in providing gold loans to customers.

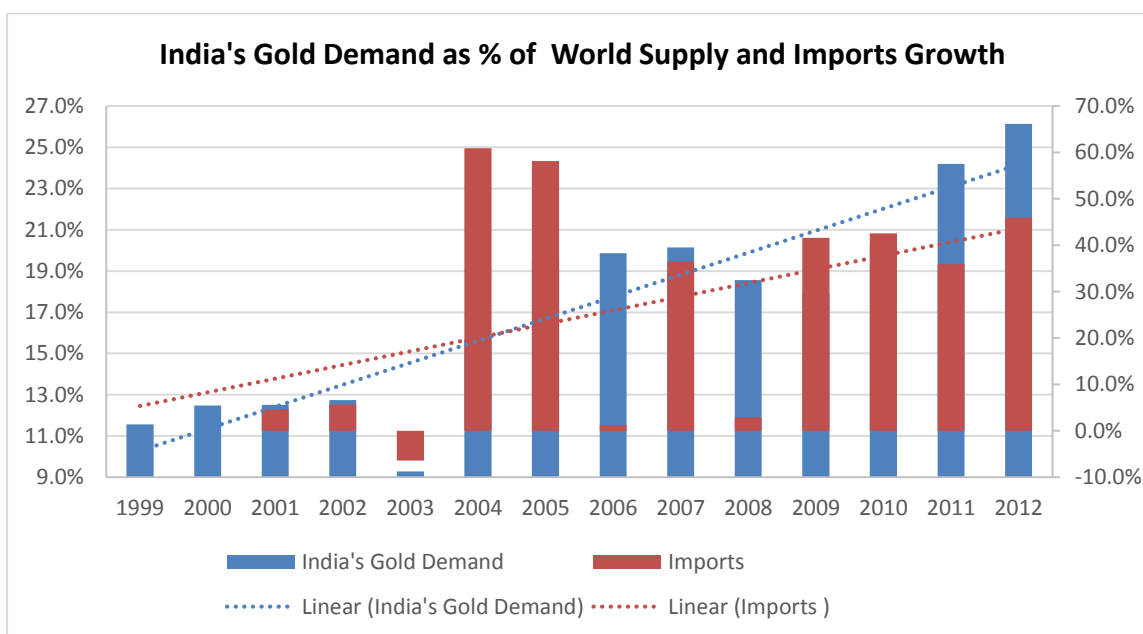
Global Gold Supply and India's Demand for Gold <sup>12</sup>				
Year	Global Gold Supply \$ (Tonnes)	Gold Demand from India @ (Tonnes)	Growth of Global Gold Supply (%)	Growth of Gold Demand from India (%)
1999	4206	486		
2000	3704	462	-11.9	-4.9
2001	3764	471	1.6	2
2002	3667	467	-2.6	-0.9
2003	3953	367	7.8	-21.3
2004	3426	537	-13.3	46.1
2005	4034	792	17.7	47.5
2006	3559	707	-11.8	-10.7
2007	3554	716	-0.1	1.3
2008	3657	679	2.9	-5.1
2009	4146	743	13.4	9.4
2010	4274	871	3.1	17.2
2011	4030	975	-5.7	11.9
2012	4130	1079	2.5	10.7
\$ - calendar year, @ - Financial Year				

<sup>12</sup> Source: *World Gold Council and Estimations from DGCI&S Data*

From the above Table, few interesting points may be derived. If we consider the entire period to map the changing demand for gold in India against the change in global gold supply, we find very little relationship<sup>13</sup>. The relationship is interesting if we divide the period into two parts – (a) 2000-2004 and (b) 2005-2012. During the first phase, we find a negative relationship between change in world supply of gold and change in Indian demand for gold<sup>14</sup> while during the second phase the relationship is positive and significant at 5% level<sup>15</sup>.

Simple Descriptive Statistics (%)					
Variable	N	Mean	Std Dev	Minimum	Maximum
World Supply	13	0.28	9.47	-13.3	17.7
Indian Demand	13	7.94	20.06	-21.3	47.5

Indian's demand for gold has been rising steadily over the years and as of 2012, it has surpassed one-fourth of world supply of gold. However, in spite of this large consumption India is more of a price taker than a price setter as domestic prices typically synchronize with global gold prices set at London after adjusting for duties.



Investment in gold has been traditionally used in India as a hedge against inflation. Hence it is expected to have a very high correlation with average WPI growth. As

<sup>13</sup> Correlation coefficient is 0.15 but insignificant.

<sup>14</sup> Correlation coefficient is -0.71 but not statistically significant and R-sq is 0.50.

<sup>15</sup> Correlation coefficient is 0.74 and statistically significant at 5% level with R-sq of 0.54.

Indian consumers are witnessing high level of inflationary pressure since 2003-04, the demand for gold started rising. The change in domestic gold prices fairly provided a coverage for high inflation measured in terms of WPI.

Annualized Monthly Average Growth in Gold Price and WPI		
Growth	Avg. WPI Growth (%)	Avg. Gold Price Growth (%)
2001-02	3.64	2.44
2002-03	3.38	16.51
2003-04	5.48	7.24
2004-05	6.51	7.63
2005-06	4.44	12.17
2006-07	6.59	35.68
2007-08	4.74	8.3
2008-09	8.09	29.83
2009-10	3.86	22.69
2010-11	9.57	22.08
2011-12	8.96	33.54

Further, demand for gold has been price inelastic. Though there is a negative relationship between the change in gold price and the change in gold demand, the same is statistically insignificant. The yearly change in gold demand has also a positive relationship with the WPI but the same is not statistically significant. However, WPI and gold price changes have positive correlation but statistically significant only at 10% level. As we find demand for gold is price inelastic, imports have been increasing at a rapid pace (till imposition of duties on import of gold in 2013 and further restriction imposed by RBI of gold import funding). The large gold imports have led substantial increase in CAD and also impacted the exchange rate.



Simple Descriptive Statistics (2001-02 to 2011-12)					
Variables	N	Mean	Std Dev	Minimum	Maximum
WPI	11	5.93	2.18	3.38	9.57
Annual Gold Price Change	11	18.01	11.53	2.44	35.68
Annual Gold Demand Change <sup>16</sup>	11	9.65	21.44	-21.3	47.5
Annual Imports Change <sup>17</sup>	11	29.53	24.18	-6.44	60.93

Gold imports stood at `269563crores as of 2011-12. As domestic production of gold has been at insignificant level for a long time, the consumption demand is met entirely through imports. Gold investment returns has been above 18% on an average in domestic market while since 2000, the international gold prices have grown at compound annual growth rate of 16.3%. Imports in terms of value have grown at a rate of about 30% during 10 years. As expected, gold imports have a very strong correlation with the demand for gold and also has a reasonably good correlation with WPI<sup>18</sup>. Gold demand and gold price has an expected negative relationship but it was not statistically significant indicating inelastic nature of the demand.

India has been exporting a certain portion of its gold imports in the form of re-exports of gold jewelry as global demand for such items has been picking up. However, such re-exports have steadily fallen fall 41% in 2008-09 to 29.2% in 2011-12. A higher percentage of gold imports are being used for meeting domestic demand. Hence, increasing domestic consumption of gold import is clearly a concern for external sector sustainability.

Pearson Correlation Coefficients, N = 11 (2001-02 to 2011-12)				
Prob >  r  under H0: Rho=0				
	WPI	Gold Price Change	Gold Demand Change	Gold Imports
WPI	1	0.59	0.31	0.57
		0.06	0.35	0.07
Gold Price Change	0.59	1	-0.16	0.29
	0.06		0.63	0.38

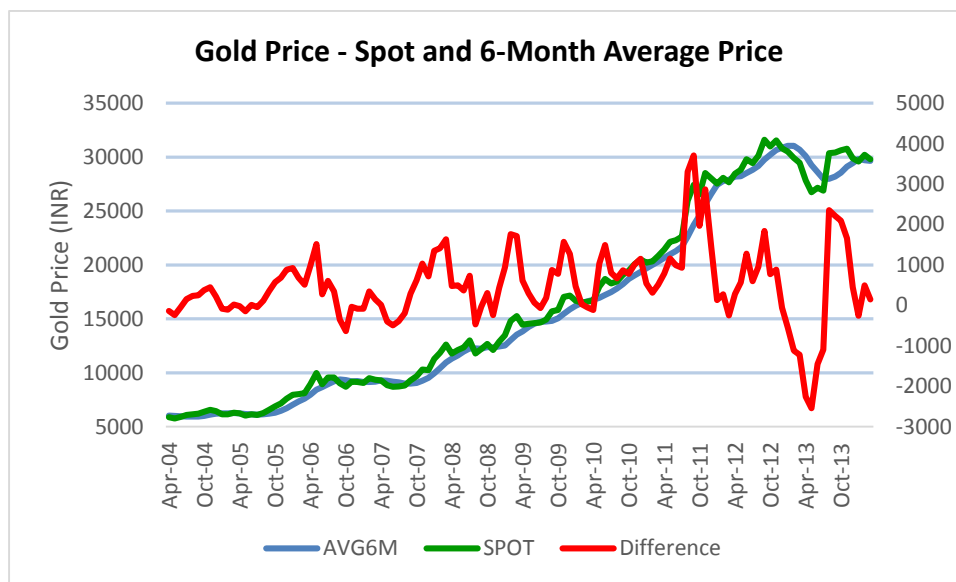
<sup>16</sup> Quantity

<sup>17</sup> Value

<sup>18</sup> Significant at 10%

Gold Demand Change	0.31	-0.16	1	0.89
	0.35	0.63		0.00
Gold Imports	0.57	0.29	0.89	1
	0.07	0.38	0.00	

Typically frequency of monthly average gold price remained above the previous six months' average price for most part of the period. This implies building up of positive expectations by gold investors as the present spot price is above the last 6-month's average price.

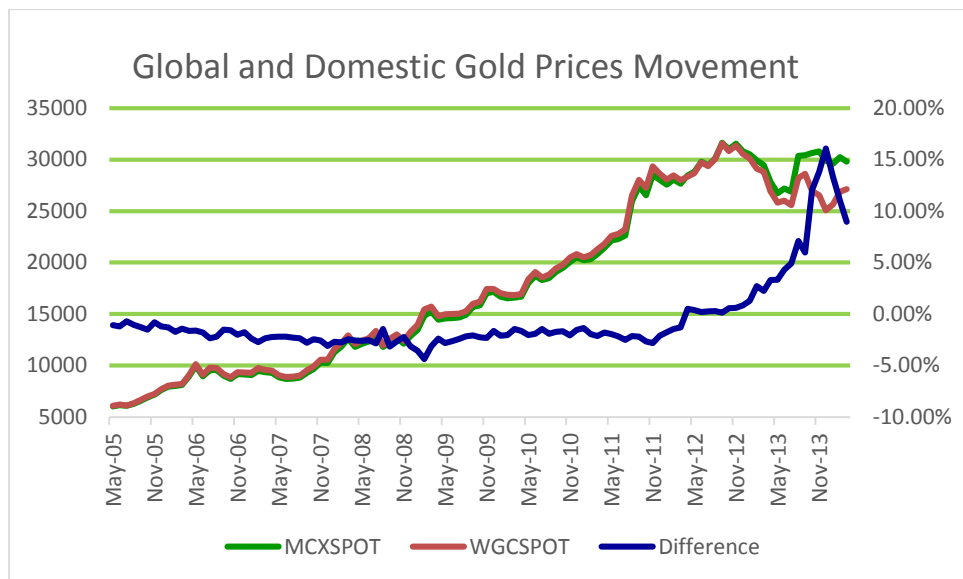


Investment in gold has been significantly rising over years as investors use the same increasing as a hedge against inflation in India. The investment has paid off handsomely vis-à-vis other financial assets. The gold imports appear to be price inelastic in India. India has a tradition and social customs warranting purchase of gold for specific occasions irrespective of the price.

### Spot Gold Price Discovery

Spot gold price for India is obtained typically for ex-Ahmedabad delivery or ex-Mumbai delivery. The ex-Ahmedabad delivery has been more popular among traders and the largest commodity futures exchange in terms of volume of contracts traded uses the said price for settlement purpose. The spot price used by the leading commodities futures exchange for settlement is arrived at by way of polling the rates

from group of jewelers and processors<sup>19</sup>. Spot gold price for India is also disseminated by World Gold council. However, the said price does not take into account the import duties introduced in 2013. Hence the global gold price and Indian domestic gold price have diverged in recent times and due to import restrictions and duties, the domestic gold price trades at a premium over the global gold price. Domestic gold prices have been trading at least 6-7% higher than global prices in Feb'14. The premia is likely to come down as the currency has been appreciating and demand for gold has decelerated because of many regulatory directives.



Physical Gold was also traded in National Spot Exchange (NSEL)<sup>20</sup> using e-contracts but as it was found later, the contracts were paired ones for borrowing and lending money and most of the warehouses did not have physical gold in their vaults. It was later found out that only a few lenders and borrowers were using the NSEL trading platform without any significant participation from retail investors. Due to absence of a functional and regulated spot trading environment, most trades in physical gold happens amongst second tier dealers and jewelry processors play a very important role in most of these deals. Gold futures trading started in multiple exchanges in India in 2003 and trades on these future exchanges are concentrated in near month contracts. Many studies have found the bi-directional causality between gold futures and gold spot prices.

<sup>19</sup> The Exchange has not provided any clarity on the process of polling, the names of entities polled and the process and methodology of arriving at the final price for settlement of contracts. Higher level of transparency in fixing spot price is likely to improve the quality of the spot price used for settlement. Exchange has also not provided historical delivery statistics in their website to understand how much contracts are settled for physical delivery.

<sup>20</sup> Criminal investigation by regulatory bodies have been initiated against NSEL in 2013 and estimated loss for lenders is about `5600crores (1crore = 10million).

# Extraterritorial Impact of International Regulations on Indian Business

## Deep N Mukherjee



Deep N Mukherjee is currently Director, Corporate Ratings with India Ratings & Research (Previously called Fitch Ratings India). He heads corporate ratings for Western India. He has over 11 years of experience in Risk Management and Credit Assessment. Prior to his current role, within Fitch he was in structured finance team. Prior to his organisation, he was with American Express where he was heading the Institutional Risk Management Team focusing on quantitative risk management. He is also a visiting faculty in finance with IIM, Kolkata. He has done his graduation in engineering from IIT, Kharagpur (B.Tech, 1999) and has obtained his management degree from IIM Lucknow (PGDM ,2002 ).

***What is ExtraTerritoriality*** : In an era where two- to four-letter alphabet soups (sample QE, EESA,TARP, LTRO) have become buzz words in the finance world, it is not often that one comes across the 23-alphabet-long, old word ‘pomposity masquerading’ as a finance buzz word. So let us start by defining it. To be relevant to the issue at hand, the author would make a personal exception and choose the dictionary.com definition over the Oxford English Dictionary (OED) definition for the word. Extraterritoriality refers to the applicability or exercise of sovereign laws outside a territory.

As such, the concept has been around with reference to international diplomacy for several centuries, while the word itself has been around since the 19<sup>th</sup> Century (Thus spake OED!). However, in the post Global Financial Crisis (GFC) revival era, the word is often used in the context of how some of the rules, regulations and conventions formed either in a specific country or by an international body impact (often adversely) other countries (usually emerging ones).

***Cross Border Regulation***: In response to GFC and in an attempt to correct systemic lapses, a host of laws and regulations came into being. Some such as Basel III are more multilateral in nature; however, the rules such as Dodd–Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), the European Markets Infrastructure Regulations (EMIR) and Markets in Financial Instruments Directive

(MIFID) are driven by the US or Eurozone regulators in an attempt to address systemic lacunae in a crisis which is already behind us.

In addition to regulations in financial markets, there is a trend of rigorous enforcement of existing anti-corruption laws, namely Foreign Corrupt Practices Act (FCPA) of US, 1977, as well as of upgradation of existing laws by widening the scope of action, namely UK Bribery Act 2010.

***Awareness about the Impact:*** While globally a huge amount of research and impact assessment has been done on all the above regulations, discussions and debates in India have generally been more limited to the impact of Basel III on bank capital requirements. Discussions or research on the second order impact of Basel III on Indian corporates (non-banking/non-financial Services) or for that matter of the other rules on Indian businesses are somewhat limited.

***Rethink Needed on Growth Assumptions:*** Clearly a lot of long-term business plans and macroeconomic projections have implicit assumptions which may no longer be valid. The more notable assumptions being the same level of attractiveness of India as has been the case between 2004 and 2011, translating into steady foreign equity inflows and Foreign Direct Investment (FDI). Secondly, a general assumption is that global interest rates will continue to be broadly around levels observed from 2009 till date, this optimistic assumption builds the expectation that foreign currency debt (of course on an un-hedged basis) would be available to Indian companies at low cost. Lastly, sundry think tanks tend to create the impression that GDP growth rate in the next 2-3 years may hit 6.5% and would trend towards 8% and above in the medium term, which may be 5 to 7 years.

As far as domestic currency interest rates are concerned, since substantial lending from Indian banking system will also be expected, the broad consensus on interest rate trajectory is divided into two camps. The 'hawks' who feel that interest rates will remain at current levels and growth obsessed Dove (God!) who feel that interest rates may come down. The rarer species is the skeptic owl, which feels that a scenario may exist, whose likelihood is well above 'remote'/tail risk category' and under this scenario, the domestic interest rate may creep up over next three to six years.

However, these assumptions may need a re-think, particularly in the context of the evolving regulatory picture outside India. This may be essential so that the Indian government, the domestic regulators and Indian corporates can deliver more sustainable growth even if that is well below the 8% mark.

***High Requirement of Capital:*** We are well into the 12<sup>th</sup> 5-Year plan period where as per initial estimates USD 1.0 Trillion was expected to be spent on infrastructure alone. While it may be reasonable to assume that till the end of the Plan period (2017), we may be significantly short on the target, one of the critical aspects we intend to

focus on is the debt funding gap in this estimate, which may become a chronic issue on any capital intensive growth plan for India.

As per a report by Deloitte on the issue, 50% of the USD 1.0 Trillion amount is expected from debt sources. Even under this scenario, there is a shortfall in debt funding gap to the extent of INR 19,000 billion. The author's personal opinion is that the debt component requirement may be much higher than 50%. As such given the recent low levels of profitability at public and private enterprises, the expectation of budgetary support and ability to internally generate resources may turn out to be lower than initially anticipated.

This is the debt shortfall only for the infrastructure sector. If one throws in capital requirements for the manufacturing and trade sectors and assumes a growth rate in economic activity even in the range of 6%-6.5% for the next 5-7 years, domestic capital sources may be grossly inadequate. Clearly, there is a strong dependence on foreign capital, be it debt or equity. However, the emergence of certain global regulations may increase the cost of capital and liquidity. Also, the amount of capital that may be made available is also likely to be lower than what is popularly assumed today.

Let us evaluate the key impacts and the regulations driving these impacts.

**Cost of Capital May Rise:** Globally, the cost of capital is most likely to go up in the medium term and is more likely to remain at the level from a medium- to long-term perspective. The reasons may be tactical as well as structural.

**Unconventional Monetary Policy:** Currently, given the unconventional monetary policies (UMP) widely adopted by the US, Europe and Japan, global liquidity is at a historic high. Besides 6M Libor (6 Months), the popular global benchmark for international interest rate is at a multi-decade low, hovering around 50-70 basis points (bp). This is well below its historic long-term average of 400-500bp. What possibly worries global investors about the winding-up of UMPs may not so much be the reduced stream of incremental liquidity, but the spike in the cost of funding which may make a lot of trades unviable. While the timing of a spike in the cost of funding remains a matter of educated guess, the direction per se may not be debatable.

**Impact of Basel III by Global Players:** The Basel III implementation timelines may end up coinciding with these tactical and structural features, which may cause the cost of funds to move up along with the demand of capital. As per a Fitch Ratings' estimate " *29 global systemically important financial institutions (G-SIFI), which as a group represent \$47 trillion in total assets, might need to raise roughly \$566 billion in common equity in order to satisfy new Basel III capital rules, which represents a 23% increase relative to these institutions' aggregate common equity of \$2.5 trillion*". In preparation for a more optimised/capital efficient implementation of Basel III, global

banks may continue to re-evaluate and reduce their exposure to sub-investment grade credits which carry a 150% risk weighted capital requirement.

The Indian sovereign is at the cusp of investment grade at BBB-/Stable (by Fitch Ratings). As such, a majority on Indian corporates and projects, which are rated lower than the sovereign, are sub-investment grade credits on the international scale. These Indian entities may face challenges in raising foreign debt, particularly at the cost they used in the last five years.

**Basel III on our own yard:** According to RBI estimates, the Indian banking system requires around INR5trn (USD83bn) of new capital under Basel III, of which nearly two-thirds will be non-equity capital. This will increase once the counter-cyclical and domestic systemically important bank buffers are put in place.

An estimated 70% of Indian banking assets belongs to government-owned banks. If the government continues to own a majority stake in them, the additional equity requirement bill is to come from government coffers. This amount is estimated to be in the tune of 60% to 70% of the overall equity requirement for Indian banking system as per various estimates.

Of course, the residual equity is expected to come from other equity owners, essentially the capital markets. Now this may throw up a challenge. At the risk of summarizing at 50,000 ft level Basel III is effectively an extension of Basel II with much higher capital requirement. This is expected to have a moderating influence on ROE of banks in general. Of course, it is anticipated that higher capitalization and other operational strictures may reduce the risk profile of banks over the long term, which may reduce volatility of earnings as well as the tail risks exhibited thus far. In that case, the risk premium associated with banks may reduce and with a stretch, the risk adjusted returns post Basel III implementation may not look as bad as the ROE.

In the normal circumstances, one may assume that the capitalization plans of Indian banks should not be an issue. However, under a somewhat pessimistic scenario if the government's fiscal position does not improve and the capital guzzling systemic NPA levels do not come down meaningfully, banks may consider the option of rationing credit. Thus, the cost of funds may be pressured upwards. While this is not the base case scenario, it is not a very remote scenario either.

**Challenges to trade flows:** India being a net importer will continue to look forward to foreign currency inflows for supporting its currency. The more sustainable mode of foreign currency inflow is export-related inflows; however, export growth may be somewhat muted given the gradual pace of global recovery in demand. At any rate, this trading function would possibly require higher levels of credit support and may have enhanced hedging requirements (given the RBI's guidelines on the same). The

EXIM Bank of India and off-shore branches of Indian banks have been the key facilitators; however, dealings with non-Indian banks are non-trivial.

However, the recent regulatory developments in Europe, which, if enacted by 2015, may present some challenges to the smooth and cost-effective operations of such traders. These regulations apart from MIFID II are Markets In Financial Infrastructure Regulations (MIFIR) and European Markets Infrastructure Regulations (EMIR).

While MIFID I has been in existence since 2007, MIFID II proposes to extend the scope of regulatory requirements to counterparties (who may be based outside European Economic Area-EEA), which provide services to financial market players based out of EEA. This would be the counterparties which may be based outside EEA would include asset managers, broker-dealers, stock brokers, market operators, commodity players, clearing houses and data service providers including IT/BPO units.

Likewise, EMIR requires all over-the-counter (OTC) derivative transactions executed by the firms based in EEA are cleared by an EU recognized clearing house. Such clearing houses may be based out of EU or countries recognised by EU as having regulatory equivalence. India as of date has not been accorded that status by European Securities and Market Authority (ESMA). If the proposed law is implemented, European banks based out of India may have difficulty in carrying out derivatives business for their Indian clients.

In summary, Indian corporates may find it difficult to deal with financial entities based out of EEA for their hedging and related trade support activities. While it can tap entities based out of other jurisdictions (including India of course), the cost of hedging and other trade facilitation services may increase since the 'supply of this service' from major European banks and financial service providers will not be available to Indian as well as lot many emerging market corporates.

***Challenges to Equity Capital flows:*** It may be noted that the recent surge in Indian markets also coincided with a fall in Libor, given the accommodative forward guidance provided by the US Fed. It may be argued whether emerging markets in general and India in particular would continue to attract such equity flows once interest rates start rising globally.

In addition, Section 619 of Dodd–Frank Wall Street Reform and Consumer Protection Act disallow banks (technically defined as insured, deposit taking institutions) and their affiliates to be involved in proprietary trading. The restrictions are extended to these institutions' ability to sponsor, invest in hedge funds and private equity funds. Of course, they can trade on behalf of their customers. However, this may mean that over a period of time, lesser funds would be chasing emerging market equity.



Additionally, the lack on investment demand may pressurise the yield of other risky instruments such as high-yield bonds. (Bonds issued by a majority of Indian corporates may fall in this category). This may again push up the overall cost of funding, not to mention a possible impact of INR/USD rate.

***Evolving Challenges in FDI flows:*** Within the political landscape in India, there is a broad consensus about the requirement to attract FDI. But several practices, which may be the business norm in India particularly those related to the unorganised and informal sector, may raise challenges because of the reputation and regulatory risk foreign corporates may run. While India's attractiveness as a growth story remains generally intact, the provisions of FCPA and UK Bribery Act may be a significant challenge to attract investments in the sectors where there are significant requirements for government clearances.

FCPA prohibits offering a bribe to a non-US government official for the purpose of furthering business interest. Besides, these rules are applicable to companies incorporated in the US as well as companies which are registered with the US stock exchanges (but incorporated outside the US). In essence, an overwhelming majority of large global corporates is covered under the act. The company is liable if any of its officer, director, employee or third party agent is involved in an act of bribery.

Sample this; Alcatel-Lucent S.A (incorporated in France) had to pay a fine and penalty to Securities and Exchange Commission (SEC), US to settle a bribery investigation, which may have occurred in Costa Rica, Honduras, Malaysia and Taiwan.

The UK Bribery Act, of course, goes to a higher level altogether. Here, senior officers of a corporate charged under the act are guilty of the same offence. As such, they are charged with the organisation's failure to prevent bribery. The actual act of bribery may be done, apart from its own employees, by individuals or other corporates with 'close connection' to the UK. If any commercial organisation which carries even a part of their business in the UK (and may be incorporated outside the UK), and any person associated with such a corporate, commits the act of bribery even outside the UK, the company would be liable for criminal action.

Under such stringent laws, it will be difficult to visualise that just because India is finally considering to open up its FDI norms, there will be a bee line of investors waiting to come in. While the growth potential undeniably exists, its attractiveness is often moderated by the 94<sup>th</sup> rank India has in Transparency International's Corruption Perception Index. As per this study, it is perceived to be the second-most corrupt member in BRICS fraternity, with only Russia rated lower.

***Next Steps:*** The sensitisation and awareness level about the impact of Basel III as well as about the unwinding of UMP is high, particularly among policy makers and top few Indian corporates. However, tier II corporates may be required to take

planning initiatives in this scenario. In certain cases, for long-term sustainability of the organization, these corporates may have to bite the bullet of reducing their leverage levels and sacrificing (often fantastic) revenue growth aspirations.

Much higher awareness level and detailed impact analysis are required in the Indian context, with respect to possible implications of MIFID II, MIFIR and EMIR. Some of them are yet to be implemented in EU, to that extent the concerns if any have to be communicated. In this regard, since the highest impact may be faced by most emerging nations, they may come together as a group and engage ESMA. It may be fair to assume that such initiatives may find favour with European banks, since their businesses in emerging nations may be adversely affected by some of these regulations.

The trickiest of the lot may be handling the fallout of FCPA and UK Bribery Act. These may require a significant change in laws at the central at state levels. As such, improving the perception about corruption may only provide at best a temporary solution.

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